

ABSTRACT OF THE DISCLOSURE

A phototransistor structure is disclosed. A sidewall is grown on the collector side and under the base. The surface of the sidewall is formed with a sidewall contact. When the contact is connected to an external voltage, the holes accumulated at the junction of the
5 base and emitter can be quickly removed. This solves the problem in the prior art that using a bias between the base and the emitter to remove holes usually results in a large dark current (bias current), power consumption, and diminishing optoelectronic conversion gain.